

ALMECdiag is ALMEC s.p.a. telediagnosics, interconnection and satellite geolocalization system, based on two elements: the **ALMECdiag Devices**, which are the devices (IoT Gateway) to be installed on the machines (construction machinery, waste management machinery, agricultural machinery, transport machinery, etc.) and the **ALMECdiag Portal** platform, on which are created the portals of the client companies which they will use and will be able to make their customers use (with credentials, userid and password) as a web interface with the devices installed on the machines.

ALMECdiag allows to perform on the machines:

- **telemetry** (reading of all sensors, actuators and limiters);
- **parameter consultation and modification** (remotely, with temporary or permanent effect);
- **firmware update** (remotely release of new versions);
- **data storage** (display of the collected data, with export on Csv or Excel files and identification of particular events or anomalies);
- **usage statistics and forecasts** (actual working data and estimated residual life of some components);
- **geolocalization and alarms detection** (view of the position and state, in operation or not, with alarms);
- **daily displacement tracking** (in operation or not);
- **corrective maintenance** (intervention following the signaling of a machine malfunction or following a more serious event with the consequent machine shutdown);
- **preventive maintenance** (identification of the critical components of a machine and then, according to a schedule, intervention to replace parts or components, regardless of their conditions);
- **predictive maintenance** (identification of parameters that are measured and extrapolated, using appropriate mathematical models, in order to identify the time remaining before the failure). With predictive maintenance it is possible to identify incipient anomalies early, allowing better management of the machine's operation and avoiding heavy economic repercussions. The analysis of the health status of the machine allows not only to anticipate the occurrence of a fault, but also to effectively direct maintenance resources where the machine requires it.

With **ALMECdiag** it is possible to access the universe of **Internet of Things (IoT)**.

The focus is double: reduce maintenance costs and increase machine productivity.

Registered users access the portal via **userid and password**, via pc, tablet or smartphone.

Interconnection allows to receive and analyze data, transmit files, information and instructions.



Communication

GSM/GPRS

QUAD BAND GSM/GPRS 2G MODULE, WORLD WIDE COVERAGE, EASY REPLECEABLE MICRO-SIM
BAND: 2G: 900, 1800 MHz
TRANSFER CAPACITY : 2G 9-14 kbps

WI-FI

BAND: 2.4GHz IEEE 802.11b/g/n 1x1 - Wi-Fi security: WPA2-PSK
CONNECTION AND OPERATING RANGE: up to 15 m (indoor)

Geolocalization

GPS

72 CH RECEIVER GNSS, L1C/A COMPLIANT, WORLD WIDE COVERAGE, EXTERNAL ANTENNA
ACCURANCY: HEADING: < 1 deg – POSITION: < 4 m

Vehicle integration

CAN-BUS

Up to 2 PORTS 2.0 A/B, FOR MONITORING, DYNAMIC CHANGE OF PARAMETERS AND REMOTE FIRMWARE UPDATE, USING CANOPEN PROTOCOLS

SERIAL

Up to 2 SERIAL PORTS RS232

Standard compliance

IP

IP65

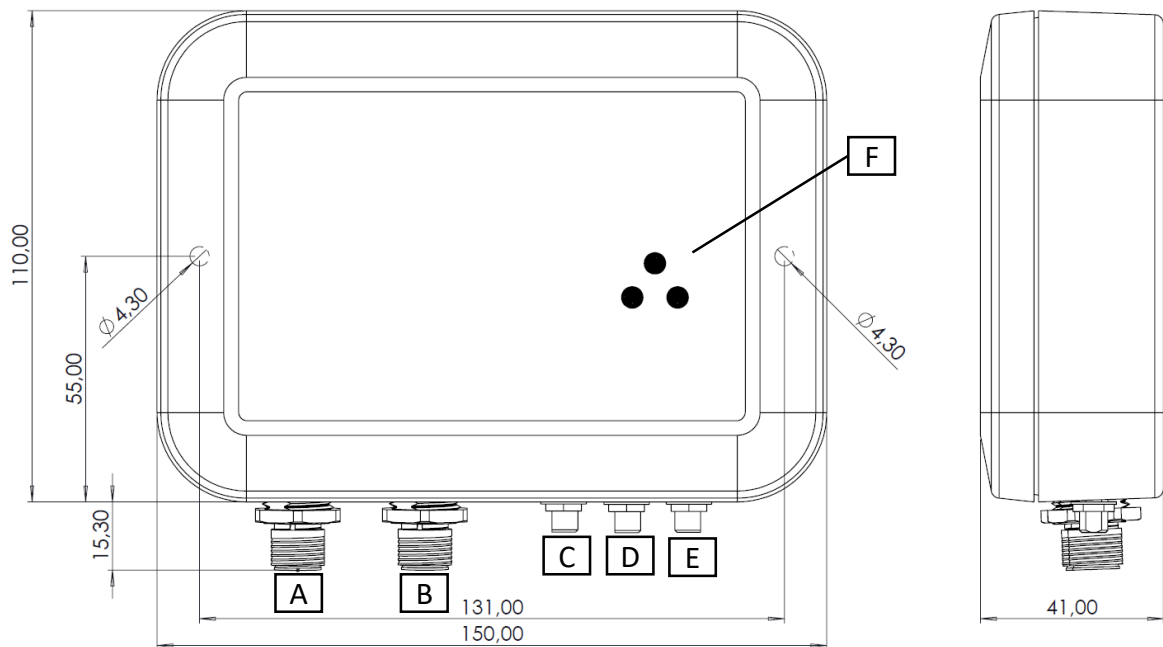
EMC

EMC, R&TTE

Technical features

POWER SUPPLY: 9 ÷ 36 VDC
OPERATING TEMPERATURE: -40°C +80°C
CASE: ABS (UL94 V-0)
CPU: arm CORTEX M4, 32bit core
PROGRAM INTERFACE: CONFIGURABLE VIA PC
BATTERY: ON REQUEST- INTEGRATED FOR RTC AND BACKUP DATA

Size (mm)



THE DEVICE MUST BE FIXED BY OPENING THE TWO SIDE LIDS ON THE FRONT OF THE BOX; RECOMMENDED SCREW: M4 LENGTH 6MM

REF	DESCRIPTION	NOTE
A	POWER SUPPLY + CAN 1 + SERIAL 1 CONNECTOR	M12 8 PIN, MALE CONNECTOR
B	OPTIONAL: CAN 2 + SERIAL 2 CONNECTOR	M12 4 PIN, MALE CONNECTOR
C	GPS ANTENNA CONNECTOR	SMA, FEMALE CONNECTOR
D	WI-FI ANTENNA CONNECTOR	SMA, FEMALE CONNECTOR
E	GSM ANTENNA CONNECTOR	SMA, FEMALE CONNECTOR
F	SATUS LED	GREEN: POWER ON YELLOW: LINE STATUS RED: DIAGNOSE STATUS

GPS / GPRS / WI-FI ANTENNA INCLUDED

FIXING BY SCREW AND DOUBLE-SIDED ADHESIVE

- SCREW : M10 / M12
- CABLE LENGHT: 3m
- MALE SMA CONNECTOR
- OPERATES FROM -40°C TO +85°C
- UV RESISTANT
- INGRESS PROTECTION: IP65
- ROHS Compliant

ALMEC s.p.a.

Via Torino, 196 - 12063 - Dogliani (Cn) - Italy
P.IVA/C.F./Reg.Imp.: 02834380046 - Cap. Soc. € 323.400
tel : +39 0173 742821 - fax : + 39 0173 70189
web : www.almec.net - mail : info@almec.net

